

REMARKS

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. This amendment is in response to the Office Action mailed November 23, 2007. Claims 1-18 were rejected. The claims have been amended to address the concerns raised by the Examiner.

Claims 1-18 were originally presented. Claims 1-18 remain in the application. Claims 1, 11, 16, and 18 have been amended. The amended language is supported by the specification, and no new matter has been added. The markup language code enabling an active user interface is discussed on page 5, lines 4-6 of the application and original claim 9. Markup language code embedded in the printing device is discussed on page 3, line 27 of the application. Making a run-time determination in the printing device is discussed on page 3, lines 27-29 of the application. Integrated into printing device is discussed on page 7, lines 12-14 of the application.

The withdrawal of the 35 U.S.C. § 101 rejection and the objections is acknowledged with appreciation.

Claim Rejections - 35 U.S.C. § 102

Claims 1-4, 6, 9-11, 13, 16, and 18 (including independent claim 1, 11, 16, and 18) were rejected under 35 U.S.C. § 102(b) as being anticipated by Yeung (6,426,798), hereinafter “Yeung.”

In order to most succinctly explain why the claims presented herein are allowable, Applicant will direct the following remarks primarily to the originally presented independent claim 1 with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable.

The Yeung reference discloses a computer that creates a data structure for a communications layer which is populated with printer specific data using XML to enable a printer driver to communicate with any defined printer regardless of operating system. (See Yeung’s Summary, col. 2, lines 22-56 and col. 3, lines 9-40) In other words, the “universal printer description file . . . is then disposed within a memory area for access and processing by a printer driver . . . to interface with the specific printer” (Yeung col. 2, lines 40-43). The universal printer description file (UPDF) is stored on the computing equipment (local computer) and all processing

occurs on the local computer, not the printer (Yeung col. 2, line 23; col. 10, lines 27-36; FIG. 2). The local computer only communicates with the printer after the driver has been configured on the computing equipment and the computing equipment actually prints to the printer (Yeung col. 11, line 26-27; FIG. 6).

In contrast, the present system and method claims that the printer itself makes a determination of the attributes supported by the printer using a program in the printing device. The program on the printer assembles XML/HTML to make the user interface. This results in the dynamic creation of a customized **active user interface** (or web page) that is sent to the client printer driver for use by an end user in controlling printer configuration. Creating a customized end user interface is significantly different than configuring an underlying printer driver (i.e. network communications layer) as in Yeung. Yeung does not disclose the feature of creating an active user interface.

Specifically, Applicant's independent claim 1 includes "making a run-time determination in the printing device of the configuration attributes supported by the printing device." In support of this claim, the specification reads "at run-time, a program **in the printing device** determines which markup language code corresponds to configuration attributes supported by the device" (Application page 3, lines 27-29). All the processing in Yeung of the UPDF 140 and universal printer data structure definition (UPDSD) 150 into a printer driver 114 occur on the computing equipment 50 (local client), which differs from the printer 40 (Yeung col. 10, lines 27-36; FIG. 2). The UPDF 140 and UPDSD 150 is placed in a memory area, such as fixed disk 45, floppy disk 44, ROM 122, or EEPROM 132 and printer is initialized by the CPU 100 (Yeung col. 10, lines 27-36; FIG. 2). All these functional blocks exist within the local computing equipment 50, and no processing or determinations occur within the printer 40. Therefore, Yeung does not disclose "making a run-time determination in the printing device of the configuration attributes supported by the printing device," of independent claim 1.

In addition, independent claim 1 includes "identifying markup language code embedded in the printing device associated with the configuration attributes supported by the printing device." The prior art of Yeung does not identify markup language code embedded in the printing device that is associated with configuration attributes because Yeung is merely setting up a data structure to enable machine level communication between the printer driver and printer, where the data

structure is stored on the computing device (See Yeung Summary). Only when a printer-specific data structure (not the UPDF or UPDSD) is not already stored to a fixed disk on the computing equipment is a copy accessed from a printer or internet connection (Yeung col. 10, lines 65-67; col. 11, lines 1-2). No communication between the computing device and the printer occurs prior to printing unless a file is missing. Yeung is not concerned with and does not disclose or suggest creating a dynamically customized printer interface for an end user as claimed in the present system and method, because all files and definitions related to the printing process are stored on the local computing equipment.

The Office Action asserts, “that additional features or capabilities may not always be included in the universal printer data structure definition file. This can be accounted for by adding new data elements with the universal printer description file.” (Office Action page 2, last paragraph, lines 3-5). Yeung fails to disclose **how** additional features or capabilities will be added. One skilled in the art would anticipate those features and compile them into a printer driver so the new data elements could be utilized when the data elements appeared, or one would recompile the printer driver after the new data elements were known so the data elements could be utilized. Using either approach, Yeung does not create a dynamically customized printer interface. Therefore, Yeung does not disclose “identifying markup language code embedded in the printing device associated with the configuration attributes supported by the printing device,” of independent claim 1.

Claim 1 also sets forth “transmitting the markup language code that is associated with the configuration attributes supported by the printing device, from the printing device to the requesting device, wherein the markup language code can enable an active user interface.” The Office Action asserts, “The printer is able to transmit the universal data file to the computer in order to initialize the printer driver in the computer” (Office Action page 3, last paragraph, lines 4-5). The printer driver is used by the computer to communicate with the printer, and the printer driver is not configured until after the driver is configured using the universal data file (i.e. UPDF and UPDSD), so the printer does not transmit the universal data file to the computer. Yeung states, “Data exchanged between computing equipment 40 and printer 50 is effected by printer driver 114 through program instruction sequences coded by printer driver 114” (Yeung col. 5, lines 10-13). FIG. 6 of Yeung shows the printer driver being configured S604 after accessing the

printer-specific data structure (USDF) S601. In addition, Yeung does not disclose a markup language code that can enable an active user interface. Only the data can change in Yeung; the display format cannot be altered, as is claimed in claim 1 (Yeung col. 2, lines 60-67). Therefore, Yeung does not disclose “transmitting the markup language code that is associated with the configuration attributes supported by the printing device, from the printing device to the requesting device, wherein the markup language code can enable an active user interface,” of independent claim 1.

The present system and method provides significant, non-obvious advantages over the invention disclosed in Yeung. Because the configuration attributes supported by the printing device are determined and stored on the printer, updates to configuration attributes by requesting devices are more efficient than Yeung. If the configuration attributes change or need to be updated on a printer, the markup language code can be changed on that single printer, and subsequently distributed to every device using that printer using Applicant’s system and method. In contrast, Yeung would require each computer (computing equipment) or user of such computer accessing a printer to download or copy a new UPDF, UPDSD, and printer-specific data structure associated with the printer, since these files are stored locally on each computer, and not the printer. In addition, the Yeung invention does not provide any indication that an update has occurred because all UPDF, UPDSD, and printer-specific data structure are locally stored on the computer, not the printer. If a 100 computers accessed a single printer, all 100 computers would need to be accounted for and a 100 downloads or copies of a UPDF, UPDSD, and printer-specific data structure would be required using Yeung. In contrast, those 100 computers would receive updated configuration attributes by making a single update to the printer and allowing Applicant’s system and method to automatically update all the requesting computers upon a request to print.

The claimed system and method is not taught in any of the cited references. Due to the patentably distinct differences described above, claim 1 should be allowed.

In addition to Yeung failing to disclose each of the elements in claim 1, Yeung also does not disclose “the step of excluding markup language code that is associated with configuration attributes not supported by the printing device,” as is claimed in claim 2. The Office Action

asserts “UIconstraints...prevents a user from selecting the option that the printer may not support” (Office Action page 4, 2nd full paragraph, lines 1-2). Yeung states, “The UIconstraints data element 212 identifies user interface constraints to prevent the user from selecting a capability or function that the printer unit being described cannot support” (Yeung col. 8, lines 52-55). Preventing user from selecting the option differs from excluding markup language code, so the user is not confused by options presented but that are unavailable. Claims 1 and 2 further disclose “markup language code [that] can enable an active user interface.” An active interface is an interface that changes based on the markup language code provided. In contrast, Yeung uses a static print driver interface where only the data element values change (e.g. enabled or disabled), so unavailable options are still displayed but disabled. Yeung suggests that the UPDF does not change the user interface: “The UPDF The universal printer description file therefore requires strict compliance with the syntax of the extensible markup language and with the predetermined hierarchy of data elements and corresponding attributes defined within the universal printer data structure” (Yeung col. 2, lines 60-67). Any change to the user interface in Yeung would require a new compiled printer driver, and therefore cannot be an active user interface. Thus, this claimed exclusion of markup language code is not taught in any of the cited references, and provides the advantage of the printer itself creating an active user interface based on supported configuration attributes.

Furthermore, Yeung fails to disclose “the step of generating a device configuration interface to display the printing device’s configuration attributes by including markup language code that is associated with the configuration attributes supported by the printing device,” of dependent claim 9. The Yeung reference discloses that the printing device’s attributes are displayed by a printer driver (Yeung col. 11, lines 18-24), which driver resides on the querying computer (Yeung FIG. 2 item 114 within computing equipment 40). Yeung displays printing device’s attributes on the host computer. In contrast, Applicant’s claim 9 generates a user interface on a remote computer, since the printer is the host processing unit. Generating a display on a host computer is a different process from generating a user interface on a remote computer, which can involve networking and permissions. This feature is not taught in any of the cited references, and provides the advantage that the printer can function to create an interface for the

configuration attributes. In contrast, the passage of Yeung cited by the Office Action merely enables or disables options that are pre-configured into the printer driver on a host computer (Office Action page 13, 1st paragraph).

Applicant will direct the following remarks primarily to the originally presented independent claim 11 with the understanding that once an independent claim is allowable, all dependent claims depending are allowable. Yeung fails to disclose, “an embedded application in communication with the printing device, wherein the embedded application is configured to make a run-time determination of which markup language code corresponds to supported configuration attributes of the printing device, wherein the markup language code can enable an active user interface,” of independent claim 11. The Office Action asserts, “In order for this to happen inside the printer, the printer has to have some type of program able to update the universal printer description file. This is an example of some type of program that is able to update the file containing the features and capabilities of the universal printer description file when additional functions are not accounted for in the predetermined universal printer data structure defined” (Office Action page 5, last paragraph, lines 3-4; page 6, runover paragraph, lines 1-4). **This assertion is unsupported by Yeung.** Yeung states, “Additional features or capabilities of the particular printer that are not provided for in the universal printer data structure definition can be accounted for by adding new data elements within the universal printer description file” (Yeung col. 3, lines 33-37). **Yeung fails disclose any method for adding additional features and capabilities, but only states that the ability to change the data structure (i.e. by uploading or programming) exists. Never does Yeung teach or suggest any processing or program of any kind on a printer.** Thus, Yeung cannot teach or suggest a printer making “a run-time determination of which markup language code corresponds to supported configuration attributes” (Claim 11).

It is well settled that “[a] claim is anticipated only if each and every element as set forth in the Claims is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. § 102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90

(Fed. Cir. 1986), *cert. denied* 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), *cert denied*, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). According to M.P.E.P. § 706.02 (IV), "for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present."

Yeung does not disclose or suggest using "some type of program" on the printer as asserted by the Office Action or "an embedded application...integrated into printing device," as is claimed in independent claim 11. This aspect or feature is not expressly or inherently present in Yeung as is required to establish anticipation under 35 U.S.C. § 102 and M.P.E.P. § 706.02 (IV).

The Office Action also asserts, "Although an embedded application is not specifically disclosed, the feature is performed by the EEPROM of the ROM, since these devices are both in communication with the printer and stores printer-related information in regards to the universal printer description file (140) and the universal printer data structure definition file (150)" (Office Action page 15, lines 11-15). There is no basis for the assertion that an embedded application is synonymous with an EEPROM or ROM. The Yeung reference discloses that EEPROM or ROM are merely a store for the universal printer data file (Yeung col. 10, lines 36-41), so no processing occurs. In addition, the UPDF and UPDSD are only ever stored on the host computer, not the printer. In contrast, Applicant's claim 11, element two sets forth "an embedded application . . . configured to make a run-time determination of which markup language code corresponds to supported configuration attributes of the printing device." It is well known in the art that off-the-shelf EEPROM and ROM devices do not perform application specific logic functions required of an embedded application as Applicant discloses.

In addition, Yeung fails to disclose "markup language code can enable an active user interface," (Claim 11) as previously discussed for independent claim 1. Therefore, Yeung does not disclose each and every element of the claimed of independent claim 11.

Applicant will direct the following remarks primarily to the originally presented independent claim 16 with the understanding that once an independent claim is allowable, all dependent claims depending are allowable. The Yeung reference discloses a computer that creates a data structure for a communications layer which is populated with printer specific data using XML to enable a printer driver to communicate with any defined printer.

In contrast, Applicant's claim 16 sets forth "an embedded application . . . is for making a run-time determination of which markup language code corresponds to the configuration attributes supported by the printing means." The distinctions between Yeung and the claimed features have already been presented related to independent claims 1 and 11. Yeung therefore does not anticipate each and every element of independent claim 16, since it does not disclose determination of printer attributes at the printing device itself.

Still further, Yeung fails to disclose "computer readable program code for transmitting the markup language code that is associated with the configuration attributes supported by the printing device," in independent claim 18. Yeung discloses the determination of valid attributes in the files is done at the requesting or querying computer (Yeung col. 11, lines 3-11). The Office Action cites Yeung claim 13 and Yeung col. 5, lines 23-59 as describing the feature of transmission of the markup language code from the printer to the computer. The asserted references only disclose transmitting data between a remote memory location and a printer driver on a host computer. Communication with a printer is not discussed. In contrast, the stand-alone feature of transmitting the markup language code is not taught in any of the cited references, and provides the advantage of the printer functioning as a stand-alone unit for displaying configuration attributes. The Yeung reference fails to show such a feature.

Rejection of the dependent claims 2-4, 6, 9-10, and 13 should be reconsidered and withdrawn for at least the reasons given above with respect to the independent claims. The dependent claims, being narrower in scope, are allowable for at least the reasons for which the independent claims are allowable.

Therefore, Applicant respectfully submits that claims 1-4, 6, 9-11, 13, 16 and 18 are allowable, and urges the Examiner to withdraw the rejection.

Claim Rejections - 35 U.S.C. § 103

Claims 5, 7, 8, 12, 14, and 17 were rejected under 35 U.S.C. § 103 as being unpatentable over Yeung in view of Hansen (7,185,014), hereinafter “Hansen.”

The Yeung and Hansen references, when combined, do not teach or suggest all of the elements of dependent claims 5, 7, 8, 12, 14, and 17. Specifically, Yeung and Hansen fails to teach or suggest “parsing an XML tree . . . and using the XML tree to create an HTML page that displays the printing device’s configuration attributes,” of claim 5. The Yeung reference does not teach using XML to create an HTML page that displays the printing device’s configuration attributes. The Hansen reference does not overcome that deficiency. Yeung merely suggests a fixed user interface where controls are either enabled or disabled which allows a user to select settings for finishing operations (Yeung col. 11, lines 18-24). The Hansen reference merely discloses that any computer language may be used for commands, and documents may be kept in any format (Hansen col. 8, lines 14-17). Hansen discloses XML and HTML, but never suggests or teaches that an XML tree is used to create an HTML page.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and **the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure.** *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

There is no motivation to combine the fixed user interface of Yeung, and the generic language of Hansen. The Office Action has asserted that it would be obvious to one of skill in the art to analyze the DTD file and create an HTML page displaying printing device’s configuration attributes, but has cited no basis for that assertion (Office Action page 22, 3rd full paragraph).

Both Yeung and Hansen fail to disclose, teach, or suggest “receiving a request for a printing device’s configuration . . . from a network browser into the printing device’s embedded web server,” of claim 7. Yeung fails to teach an embedded web server. The Hansen reference

does not overcome that deficiency. Hansen teaches web server software for receiving a request but not a web server embedded in a printer.

Applicant's disclosure solves the problem of displaying configuration attributes through a dynamically created display originating at the printing device itself as a stand-alone device. The Office Action has asserted that it would be obvious to one of skill in the art to allow web server software to communicate with other devices over the network (Office Action page 23, 3rd full paragraph). However, there is no basis for the assertion that Applicant claims to communicate with other devices over the network in order to generate a web page.

Claim 8 is allowable once independent claim 1 and claim 7 are allowed having depended therefrom. Also claims 12 and 14 are allowable depending on independent claim 11. Claim 17 is allowable depending on independent claim 16. Therefore, Applicant respectfully submits that claims 5, 7, 8, 12, 14, and 17 are allowable, and urges the Examiner to withdraw the rejection.

CONCLUSION

In light of the above, Applicant respectfully submits that pending claims 1-18 are now in condition for allowance. Therefore, Applicant requests that the rejections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Steve M. Perry at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 08-2025.

DATED this 25th day of February, 2008.

Respectfully submitted,

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